File RD-71

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MEETING BETWEEN [redacted] AND THE CONTRACTING AGENCY HELD ON 19 OCTOBER 1954 25X1
Contract No. RD-71 (H-2026)

Those present at the meeting were:

Contracting Agency

[redacted]

[redacted]

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[redacted] personnel reviewed the proposed time schedule of work to be performe 25X1
and the relative scope of the individual tasks. A [redacted] Engineering schedule 25X1
was submitted to each conferee and discussed. It was pointed out that [redacted] 25X1
is currently meeting its Engineering schedule. It was indicated that the schedule was predicated on receiving from the contracting agency a one month extension of the termination date from November 15, 1955 to December 15, 1955; this action being required due to the late contract award date. The representatives of the contracting agency agreed and the extension was verbally granted. [redacted] however, at some future date will formally request of the 25X1
contracting officer a change in delivery date.

[redacted] reviewed the requirements of the specification, the nature 25X1
of the problems involved, the design criteria established, and the plan of attack to obtain solutions. Pertinent portions of the specifications were reviewed.

It was indicated that a mechanical filter is being considered for this design and [redacted] is currently working with [redacted] on this 25X1 25X1
item. [redacted] advised that he would be pleased to assist us in the 25X1
event we had any difficulty in delivery from Collins.

No disagreement was evidenced by the representatives of the contracting agency regarding the ideas incorporated by [redacted] as a proposed solution 25X1
to system problems.

A number of questions were raised by [redacted] regarding the part of the 25X1
specifications where some doubt existed as to the full meaning. The following points were agreed to by all parties.

1. No reference is made in the specifications as to the allowable distortion. The representatives of the contracting agency advised that the receiver would be used primarily for C.W. purposes and it would be possible to tolerate appreciable distortion. The exact distortion requirements will be discussed at a later date when [redacted] engineering has more data available. 25X1

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2. The antenna impedance specified as a nominal value of 300 ohms was chosen as a compromise. Since best power match is mandatory only where maximum sensitivity is required, it would be permissible to vary this impedance within reasonable limits in order to simplify the problem of handling the dynamic range of signal specified.

3. The use of A.G.C. is left to the discretion of Philco.

4. The maximum power output required under any conditions of modulation is 0.5 milliwatt.

5. The audio output circuit does not have to be matched for best power transfer to the phones, since the efficiency obtained is outweighed by equipment complexity.

6. The earphones should not be centertapped, since this would require the modification of auxilary equipment in the field.

7. [redacted] should make a search within the organization to determine whether any group has undertaken or is undertaking the development of U.H.F. antennas. 25X1

[redacted] presented sketches of two different tuning arrangements and discussed their advantages and disadvantages. It was agreed that a linear dial of a linear tuner was more desirable from many standpoints. Of the two proposed tuners, one consisted of a vernier reading dial calibration which utilized anti-backlash gearing to drive a linear inductance tuner. The major disadvantage is in the requirement that the operator must be capable of reading the fixed vernier and the tuning drive system is somewhat complex due to the necessary gearing to achieve linear motion. The second proposed tuner consisted of a fine pitch screw drive controlled by a single knob with both a main scale and a vernier scale with readable divisions down to 250 cycles. This tuner requires a magnifying window for ease of scale reading. It was pointed out that band switching will probably be required with this type tuner due to limited space. However, this design enables fabrication of a linear coil to be more easily wound and at the same time tends to increase reliability of the tuner. This tuner having a direct drive will minimize the possibility of errors in setability and resetability. [redacted] agreed to send sketches of the two proposed dial faces to the contracting agency. He will also include in the sketch of the micrometer dial an indication of the magnification which will be obtained by use of magnifying glass. 25X1 25X1

In answer to a number of questions posed by [redacted] it was determined that the use of equipment is such that accuracy and ease of dial interpretation should be the governing factors. The time required for frequency location on the dial is not considered of paramount importance. A representative of the contracting agency suggested that the micrometer dial include a crank arrangement which would permit faster movement of the dial when required. This will be included in the sketches submitted to the contracting agent. 25X1

Specifications regarding immersion proofness was also reviewed by [redacted] 25X1
The exact degree of immersion proofness was not determined, however it was felt that a test of two hours in 3 ft of water may yield rough design criteria. The contracting agency pointed out that the equipment must be rainproof when operating, and immersion proof when non-operating with the cover on. The use of a partial cover over the controls is not necessary if the receiver is sufficiently immersion proof on its own.

It was agreed that no light would be included in the receiver due to the prohibitive power requirements. Luminous markings should be provided compatible with scale graduations. The type of power supply jacks to be utilized for external power purposes would be left to the discretion of [redacted]. 25X1

The contracting agency agreed to the use of tantalytic capacitors if their only shortcoming is a decrease of capacity with life. Capacitors of this type are proposed for non-critical purposes and the reduction in capacity will not affect performance.

[redacted] reviewed some of the preliminary packaging arrangements and the contracting agency was agreeable to the basic philosophy of having individual stages in potted cubes which may be handled on a throw-away basis. The contracting agency, however, is of the feeling that since transistor life under storage conditions specified are unknown to a sufficient extent, the transistors should be mounted on each cube in a manner which would permit ease of replacement in the field. [redacted] indicated that such a change in design philosophy would not create any undue hardship. 25X1 25X1

A tentative schematic of the receiver was distributed to each conferee and reviewed by [redacted]. The breadboard work accomplished to date was discussed as well as the results of the tests performed. The advantages of the Surface Barrier Transistors were pointed out, and the characteristic uses of the various types of transistors to be incorporated in the receiver were reviewed. Representatives of the contracting agency witnessed the demonstration of a breadboard receiver in the laboratory. 25X1

It is understood that [redacted] will pick up the necessary information from the contracting agency with regard to symbols and markings for the receiver. It is also understood that Telex Head Sets have been ordered by the contracting officer and will be delivered to [redacted] as quickly as possible. 25X1 25X1

[redacted] 25X1

Project Engineer